What is claimed is:

1. An apparatus for fabricating a III-V nitride film including at least Al element, comprising a reactor of which at least the part to be contacted with aluminum chloride gas is made of an aluminum nitride material, wherein as viewed from a gas flow direction, at least an aluminum metallic material is charged into the upstream side of the reactor and a substrate is set into the downstream side of the reactor, and then, a III-V nitride film including at least Al element is epitaxially grown by using a Hydride Vapor Phase Epitaxy method through the reaction of the aluminum chloride gas generated by the reaction of the aluminum metallic material with the chloride-based gas and the ammonia gas which are introduced from the outside with carrier gas.

2. A fabricating apparatus as defined in claim 1, wherein the whole of the reactor is made of the aluminum nitride material.

3. A fabricating apparatus as defined in claim 1, wherein the reactor is composed of a reactor body made of a silicon oxide-based material and an aluminum nitride film coated on the inner wall of the reactor body.

4. A fabricating apparatus as defined in claim 3, wherein the aluminum nitride film is formed by a thermal CVD method.

5. A fabricating apparatus as defined in claim 1, wherein the part of the reactor to be contacted with the aluminum chloride gas is made of the aluminum nitride material and the rest is made of a silicon oxide-based material.

6. A fabricating apparatus as defined in any one of claims 1-5, wherein the Al content of the III-V nitride film is 50 atomic% or over.

7. A fabricating apparatus as defined in claim 6, wherein the III-V nitride film is an AlN film.

8. An apparatus for fabricating a III-V nitride film including at least Al element on a given substrate by using a Hydride Vapor Phase Epitaxy method, comprising a double structure reactor constructed of an inner reactor to hold a substrate and at least an aluminum metallic material therein and an outer reactor surrounding the inner reactor which are made of a silicon oxide-based material, a gas-supplying means to introduce chloride-based gas, ammonia gas and carrier gas into the inner reactor, a heater to heat the interior of the inner reactor, and a gas leak-detecting means with a gas concentration sensor to detect the gas leak in between the

inner reactor and the outer reactor.

9. A fabricating apparatus as defined in claim 8, wherein a given pressure difference is generated in between the inner reactor and the outer reactor, and then, the gas concentration sensor is set to detect a given gas concentration in either the inner reactor or the outer reactor which is lower in pressure.

10. A fabricating apparatus as defined in claim 9, wherein the interior pressure of the outer reactor is set to be lower than that of the inner reactor, and then, the gas concentration sensor is set to detect a given gas concentration in the outer reactor.

11. A fabricating apparatus as defined in any one of claims 8-10, wherein the gas concentration sensor detects at least one selected from the group consisting of an ammonia gas, a hydrogen chloride gas and an inert gas.

12. A fabricating apparatus as defined in claim 8, wherein the Al content of the III-V nitride film is set to 50 atomic% or over.

13. A fabricating apparatus as defined in claim 12, wherein the III-V nitride film is an AlN film.

14. A method for fabricating a III-V nitride film, comprising the steps of:

preparing a double structure reactor constructed of an inner reactor and an outer reactor, capable of detecting a gas leak in between the inner reactor and the outer reactor,

charging at least an aluminum metallic material in the upstream side of the inner reactor and setting a given substrate in the down stream, as viewed from a gas flow direction,

introducing a chloride-based gas with a carrier gas into the inner reactor from the outside, to generate an aluminum chloride gas through the reaction of the aluminum metallic material with the chloride-based gas, and

introducing an ammonia gas with a carrier gas into the inner reactor from the outside, to epitaxially grow a III-V nitride film including at least Al element on the substrate by using a Hydride Vapor Phase Epitaxy method through the reaction of the aluminum chloride gas with the ammonia gas.

15. A fabricating method as defined in claim 14, wherein the substrate is made of a single crystal material of Al_2O_3, SiC, $NdGaO_3$, $LiGaO_2$, ZnO, MgO, $MgAl_2O_4$, GaAs, InP or Si.

16. A fabricating method as defined in claim 14, wherein the substrate is constructed of an epitaxial growth substrate composed of a single crystal base material of Al_2O_3, SiC, $NdGaO_3$, $LiGaO_2$, ZnO, MgO, $MgAl_2O_4$, GaAs, InP or Si and an underfilm made of a material having a wurtzite crystal structure or a zinc blende crystal structure.

17. A fabricating method as defined in any one of claim 14-16, wherein the Al content of the III-V nitride film is set to 50 atomic% or over.

18. A fabricating method as defined in claim 17, wherein the III-V nitride film is an AlN film.